

REMARKS

Claims 1-41 are pending in this application. No claims have been amended.

Summary of Interview

Applicants thank the Examiner for the courtesy the telephonic interview with Applicants' undersigned representative on July 13, 2006. During the interview, the Lukas reference was discussed. It was agreed that while the cited portions of Lukas disclose a silane in the plasma used to deposit the structure former and porogen (i.e., the multiphasic film of Lukas), the reference is silent on the constitution of the plasma used to remove the porogen.

35 U.S.C. § 103 Rejections

Claims 1-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of US Published Application No. US 2004/0096672 to Lukas et al. ("Lukas") and Cho et al. "Plasma Treatments of Molecularly Templated Nanoporous Silica Films," ("Cho") which was cited by Applicants in an Information Disclosure Statement. Applicants respectfully traverse this rejection.

As discussed in the interview, Applicants' claims require the operations of 1) providing a precursor layer comprising a dielectric matrix and a porogen on a substrate and 2) exposing the layer to a plasma containing a silanol capping agent to concurrently remove the porogen from the precursor layer and protect the dielectric matrix with hydrophobic groups.

Lukas teaches formation of a multiphasic film by a plasma-based CVD process using a silane in paragraphs 0029-0033. The multiphasic film includes a structure former and a pore former. This operation in Lukas supplies the first operation of Applicants' claim 1, i.e., providing a precursor layer containing a dielectric matrix (structure former) and a porogen (pore former).

After formation, the multiphasic film of Lukas is exposed to an energy source, e.g. a plasma, to remove the pore former or porogen (see paragraph 0054). However, as discussed in the interview, Lukas does not inherently or explicitly teach or suggest that the plasma used to remove the porogen includes a silane or other silanol capping agent as required by Applicants' claims. Although Lukas describes a plasma containing arylsilanes or alkylsilanes in paragraphs 0033 and 0038, this plasma is used to deposit the multiphasic film and not to remove the porogen.

At least because none of the cited references teach or suggest exposing a precursor layer containing a porogen and a matrix to a plasma comprising a silanol capping agent to remove the porogen, Applicants submit the claims are patentable.

Accordingly, Applicants request that the Examiner withdraw the rejections of claims 1-24.

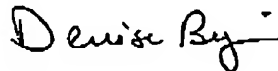
Allowable Subject Matter

Applicants gratefully acknowledge the indication of allowability of claims 25-41.

Conclusion

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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